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Soil Moisture

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Abstract

Soil moisture samples were taken at 29 sites in northwest Iowa during late October 2006. Moisture samples were taken at 1-ft increments down to a 5-ft depth. Samples were weighed, oven dried, and reweighed at the Northwest Research Farm, Sutherland. The moisture percentages were calculated from these data, and then they were used to calculate the inches of plant available moisture in the soil.

Disciplines

Agricultural Science | Agriculture

Soil Moisture

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Soil moisture samples were taken at 29 sites in northwest Iowa during late October 2006. Moisture samples were taken at 1-ft increments down to a 5-ft depth. Samples were weighed, oven dried, and reweighed at the Northwest Research Farm, Sutherland. The moisture percentages were calculated from these data, and then they were used to calculate the inches of plant available moisture in the soil. The data from these sites are listed in Table 1.

Long-term fall averages range from 4.5 in. to 6.0 in. of plant available moisture in the top 5 ft of soil. Averages for the last 15 years have been higher. The maximum plant available moisture level for most of these soils is approximately 11 in. in the top 5 ft of soil. Although rainfall was well below normal for much of the summer of 2006, August and September precipitation brought many sites back up to and above the long-term average in northwest Iowa.

Table 1. Soil moisture available to plants in inches.

Site	County	2005 crop	Plant available moisture
Calumet	O'Brien	corn	8.0 in.
Sanborn	O'Brien	corn	8.1 in.
Doon	Lyon	corn	8.0 in.
Sibley	Osceola	corn	6.3 in.
Boyden	Sioux	corn	no data
Ireton	Sioux	soybean	8.7 in.
Akron	Plymouth	corn	5.6 in.
LeMars	Plymouth	corn	7.6 in.
Hinton	Plymouth	soybean	6.6 in.
Kingsley	Plymouth	corn	5.6 in.
Aurelia (North)	Cherokee	corn	8.2 in.
Aurelia (South)	Cherokee	corn	8.9 in.
Cherokee	Cherokee	corn	7.4 in.
Marcus (North)	Cherokee	corn	9.0 in.
Marcus (South)	Cherokee	corn	6.1 in.
Lawton	Woodbury	corn	6.7 in.
Anthon	Woodbury	soybean	9.6 in.
Rossie	Clay	corn	8.3 in.
Spirit Lake	Dickinson	corn	7.9 in.
Estherville	Emmet	soybean	7.2 in.
Newell	Buena Vista	soybean	4.7 in.
Ida Grove	Ida	soybean	7.5 in.
Holstein	Ida	soybean	9.3 in.
Battle Creek	Ida	soybean	7.5 in.
Sac City	Sac	soybean	8.1 in.
Schaller	Sac	corn	4.4 in.
Odebolt (North)	Sac	soybean	8.6 in.
Odebolt (South)	Sac	soybean	10.2 in.